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bcc:
Subject: Environmental Defense comments on Triglycidyl Isocyanurate (CAS# 2451-62-9)

(Submitted via Internet 5/18/05 to oppt.ncic@epa.gov, hpv.chemrtk@epa.gov, boswell.karen@epa.gov, chem.rtk@epa.gov, lucierg@msn.com and Mandava@compuserve.com)

Environmental Defense appreciates this opportunity to submit comments on the robust summary/test plan for **Triglycidyl Isocyanurate (CAS# 2451-62-9)**.

The test plan and robust summaries for triglycidyl isocyanurate (TGIC) were submitted by Mandava Associates on behalf of Huntsman-Nissan. TGIC, according to the test plan, is used primarily as a hardener for polyester-based powder coatings and as such is likely used in the preparation of a wide array of consumer products. However, those consumer products were not specified in the test plan. The test plan states that no free TGIC is available for exposure to downstream users of the finished powder coatings. However, no data are provided to substantiate this claim and no data are provided on environmental releases from manufacturing or processing facilities. This issue may be important because TGIC is not biodegradable. The test plan claims that TGIC is not manufactured in the United States, although it is imported in substantial amounts for use by 50-60 companies in the United States.

TGIC is a toxic compound as evidenced by its acute toxicity, hematopoietic toxicity, reproductive tract toxicity, genetic toxicity, ability to form DNA adducts and respiratory toxicity; TGIC does not appear to be a carcinogen. The NOEAL is 2 mg/kg/day for oral exposures and approximately 2 mg/m3 for inhalation exposures, based on existing studies. The TLV for occupational exposures is 0.05 mg/m3, although no data are provided on the magnitude of exposures actually encountered in the workplace.

The sponsor claims that existing data are adequate to meet the requirements of the HPV program. We agree with this contention with one exception. No data are available for the developmental toxicity/teratology endpoint and no studies are proposed to address this data gap. Instead, the sponsor asserts that this endpoint is addressed by existing data from subchronic studies, which the sponsor maintains indicate that reproductive tissues are not at risk from exposures to TGIC. This assertion is not consistent with data from toxicity studies on TGIC. For example, page 10 of the test plan indicates that TGIC has toxic effects on sperm, spermatids and spermatogonia. Also, page 29 of the test plan indicates that TGIC altered the weights of the ovaries, testes, uterus and seminal vesicles, although these results are not fully documented in the robust summaries. For these reasons, we recommend that the sponsor conduct a developmental toxicity study on TGIC.

The test plan makes a weak and not scientifically justifiable attempt at a risk assessment on TGIC based on species differences in epoxide hydrolase, a putative detoxification mechanism for TGIC. However, metabolic charts are not provided to justify this claim and the scientific evidence for species differences in risks are far from adequate to justify any statements on human resistance to the toxic effects of TGIC.

Thank you for this opportunity to comment.

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